EXHIBIT A

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

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                                        :
IN RE DIAMOND FOODS, INC.,   :   Case No.:
SECURITIES LITIGATION   :   11-cv-05386-WHA
                                        :
_____ :   CLASS ACTION

EXPERT REPORT OF DR. JAY HARTZELL

March 28, 2013

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I.   Introduction

1. I have been retained by counsel for the class plaintiffs in the Diamond Food, Inc. Securities Litigation to provide an opinion on the efficiency of the market for Diamond Food, Inc. common stock during the class period starting 10/5/2010 and ending 2/8/2012 (inclusive). This expert report contains my opinion on the efficiency of the market in which Diamond Food, Inc. common stock traded during the class period.[1]

II. Qualifications

2. I am a Professor and the Chair of the Finance Department of the McCombs School of Business at The University of Texas at Austin. My research and teaching are in the areas of corporate finance and real estate finance. I regularly teach valuation at both the undergraduate and graduate levels. In addition, I regularly teach a PhD class on empirical corporate finance, which includes event study methodology among its topics. I have published in the top finance and real estate journals, held multiple editorial positions for those journals, and hold a Ph.D. in finance from The University of Texas at Austin. A copy of my current curriculum vitae (CV) is in Exhibit 1, which includes my professional presentations and publications, along with a complete listing of my prior testimony.

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[1] It is my understanding that the class in this matter also contains holders of derivative securities, specifically long-call and short-put positions. Calls and puts are derivative securities with values "derived" from, or dependent on, the value of the underlying common stock. Because stock-option value and the value of the underlying stock are inextricably linked, changes in the price of Diamond Foods common stock are associated with commensurate changes in the value of options on Diamond Foods stock.

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III. Summary of Opinion

3.   Based on my evaluation of the market in which Diamond Foods common stock traded, it

is my opinion that the market for Diamond Foods common stock was semi-strong form

efficient during the class period 10/5/10 – 2/8/12 (inclusive). In the course of my

analysis I examined factors related to the structural characteristics of the market in

which Diamond Foods common stock traded described in the *Cammer* and *Krogman*

decisions, as well as the cause-and-effect relationship between corporate events and

financial releases, and price changes in Diamond Foods stock during the class period.

This analysis informs and supports my conclusion that trading in Diamond Foods

common stock was semi-strong form efficient during the class period in this matter.

IV. Background

4.   Diamond Foods is a packaged foods company that sells snack, culinary, and ingredient

food products under retail brands that include Diamond of California, Emerald, Pop

Secret, and Kettle Brand. Diamond Foods, Inc. was incorporated in Delaware in 2005 as

the successor to Diamond Walnut Growers, Inc., a member-owned California

agricultural cooperative association. The common stock of Diamond Foods trades on

the NASDAQ stock exchange under the symbol DMND.[2]

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[2] Diamond Foods, Inc. 10-K for the fiscal year ended July 31, 2011, filed with the SEC on September 15,
2011.

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5.   I understand plaintiffs in this matter allege that "During the relevant [class] period, Diamond and the Individual Defendants knowingly understated the costs of the walnuts it purchased in order to inflate artificially the price of the Company's common stock."[3]

6.   I understand the class period in this matter starts on 10/5/2010 and ends on 2/8/2012, inclusive.[4]

V. Methodology and Bases for Opinion on Market Efficiency

7.   I understand that established case law suggests factors to be considered when determining the efficiency of the market for a given security.[5] These *Cammer* and *Krogman* factors include: (1) the average weekly trading volume expressed as a percentage of total outstanding shares; (2) the number of securities analysts following and reporting on the stock; (3) the extent to which market makers and arbitrageurs trade in the stock; (4) the company's eligibility to file SEC registration Form S-3 (as opposed to Form S-1 or S-2); (5) the existence of empirical facts "showing a cause and effect relationship between unexpected corporate events or financial releases and an immediate response in the stock price"; (6) the company's market capitalization; (7) the bid-ask spread for stock sales; and (8) float, the stock's trading volume without counting insider-owned stock.[6] The *Cammer* and *Krogman* factors are consistent with my knowledge and understanding of financial markets and the academic literature regarding market efficiency.

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[3] In re Diamond Foods, Inc., Securities Litigation, Consolidated Complaint, July 30, 2012 at ¶2.

[4] In re Diamond Foods, Inc., Securities Litigation, Consolidated Complaint, July 30, 2012 at ¶1.

[5] *Cammer v. Bloom*, 711 F. Supp. 1264, 1286-87 (D.N.J.1989); *Krogman v. Sterritt*, 202 F.R.D. 467, 477-78 (N.D. Tex. 2001).

[6] As summarized in *Unger v. Amedisys Inc*. 401 F.3d 316, 323 (5th Cir. 2005)

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8. Much academic literature on market efficiency provides evidence that the major stock

    markets in the U.S. are semi-strong form efficient. Additionally, the efficient market

    hypothesis and the idea that large stocks traded on the major exchanges (NYSE and

    NASDAQ) are semi-strong form efficient is taught in MBA finance textbooks used at

    virtually every major business school in the U.S.[7] A semi-strong form efficient market

    is a market in which stock prices reflect all publicly-available information, and stock

    prices react quickly to new material information (news) regarding stock value.

9. In their section on market efficiency, Parrino et al.[8] discuss the underlying concepts of

    operational efficiency and informational efficiency.

> The overall efficiency of a market depends on its *operational efficiency*
> and its *informational efficiency*. **Market operational efficiency** focuses on
> bringing buyers and sellers together at the lowest possible cost. The costs of
> bringing buyers and sellers together are called *transaction costs* and include
> such things as broker commissions and other fees and expenses. The lower
> these costs, the more operationally efficient markets are. Why is operational
> efficiency important? If transaction costs are high, market prices will be more
> volatile, fewer financial transactions will take place, and prices will not reflect
> the knowledge and expectations of investors as accurately.
>   Markets exhibit **informational efficiency** if market prices reflect all
> relevant information about securities at a particular point in time. As suggested
> above, informational efficiency is influenced by operational efficiency, but also

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[7] Standard MBA finance textbook treatment and evidentiary support for semi-strong form efficiency can be found in the following widely used finance textbooks: (1) Corporate Finance, Ross, Westerfield, Jaffe, Ninth edition, Chapter 14 (which includes the following statement in the summary section regarding market efficiency, page 460, point 4., "Much evidence from different financial markets supports weak form and semistrong form efficiency but not strong form efficiency."); (2) Investments, Bodie, Kane, Marcus, Ninth Edition, (which includes the statement at page 373, "We conclude that markets are generally very efficient, but that rewards to the especially diligent, intelligent, or creative may in fact be waiting"); (3) Fundamentals of Corporate Finance, Parrino, Kidwell, and Bates, Second Edition, Chapter 2, pages 33, 34 (which contains the following sentences at page 34 regarding semistrong-form efficiency, "The concept of semistrong-form efficiency is a reasonable representation of the public stock markets in developed countries such as the United States. In a market characterized by this sort of efficiency, as soon as information becomes public, it is quickly reflected in stock prices through trading activity."). Two pages from the Parrino et al. textbook that provide a reasonable summary of the market efficiency issue are attached to this report as Exhibit 2.

[8] Fundamentals of Corporate Finance, Robert Parrino, David Kidwell, Thomas Bates, John Wiley & Sons, copyright 2012, second edition, page 33.

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depends on the availability of information and the ability of investors to buy and sell securities based on that information. In an informationally efficient market, market prices adjust quickly to new information as it becomes available. Prices adjust quickly because many security analysts and investors are gathering and trading on information about securities in a quest to make a profit. Note that competition among investors is an important driver of informational efficiency.

10. In large part, the *Cammer* and *Krogman* factors examine the operational efficiency and the informational efficiency of the market in which a stock trades. The *Cammer* and *Krogman* analysis focuses on the availability of information and the existence of a market and trading mechanism for getting information into stock prices. I examine the *Cammer* and *Krogman* factors as they relate to the existence of an (semi-strong) efficient market for Diamond Foods common stock in the following sections.

i) Trading Volume

11. Among the structural indicators of likely efficiency is the volume of trading in a particular security. The *Cammer* decision states that, "Turnover measured by average weekly trading of two percent or more of the outstanding shares would justify a strong presumption that the market for the security is an efficient one."[9] Per *Cammer*, a large volume of weekly stock trades implies an efficient market in that many investors use corporate information as a basis for executing trades.[10] The average <u>daily</u> turnover rate for Diamond Foods calculated using reported volume over the entire class period was 3.6 percent.[11] This average daily turnover rate over the class period implies a weekly turnover rate based of 18.2 percent (i.e., 5 x 3.6% = 18.2%). The average weekly

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[9] *See Cammer v. Bloom*, 711 F. Supp. 1264, 1286 (D.N.J. 1989).

[10] *See id.* p. 1286.

[11] Volume data as reported by Bloomberg. The average daily volume during the class period was 800,711 shares. The total volume during the class period was 272,241,875 shares.

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turnover rate of 18.2% is above the 2% level cited in *Cammer* as justifying a "strong

presumption" of efficiency. Thus, trading volume over the class period supports a

finding that the market for Diamond Foods common stock was (semi-strong form)

efficient.

ii) Security Analysts

12. The *Cammer* decision states, "it would be persuasive to allege a significant number of

securities analysts followed and reported on a company's stock during the class

period."[12] *Cammer* goes on to state that the existence of analysts implies that company

reports were closely reviewed and interpreted by investment analysts, who would make

recommendations to investors based on the information contained in such reports.[13] I

have identified analyst coverage of Diamond Foods from Barclays, BB&T, MBO

Capital Markets, BOA Merrill Lynch, Craig-Hallum, Credit Suisse, DataMonitor,

Deutsche Bank, Janney Capital Markets, Jefferies, KeyBanc Capital Markets, RBC

Capital Markets, and SunTrust Robinson Humphrey. During the class period, the

activities of the company were also followed by general-interest press, including the

Wall Street Journal, Reuters, the Associated Press, and Marketwatch. This level of

security analyst and press coverage supports a finding that the market for Diamond

Foods was (semi-strong form) efficient.

iii) Market Makers and Arbitrageurs

13. The *Cammer* decision observes that, "[t]he existence of market makers and arbitrageurs

would ensure completion of the market mechanism; these individuals would react

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[12] *See Cammer v. Bloom*, 711 F. Supp. 1264, 1286 (D.N.J. 1989).

[13] *See Cammer v. Bloom*, 711 F. Supp. 1264, 1286 (D.N.J. 1989).

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swiftly to company news and reported financial results by buying or selling stock and driving it to a changed price level."[14] During the class period Diamond Foods common stock was traded on the NASDAQ. The NASDAQ market is viewed as well-functioning and efficient, and NASDAQ-listed companies include such household names as Google, Mattel, and News Corporation. NASDAQ listed stocks have market makers which maintain market liquidity. Per Bloomberg, during the class period there were 19 brokers that reported trading over one million shares of Diamond Common Stock.

14. There was a minimum of 5.3 million Diamond Foods common shares sold short on the NASDAQ during the class period, indicating the presence of arbitrage activity with investors taking positions on both sides of the stock. Filings with the SEC also show call and put options on Diamond Foods stock held during the class period by investors such as Citadel Advisors and Susquehanna International Group. This indicates the presence of arbitrage activity, with investors in the options market taking positions on both sides of the stock. Filings with the SEC show large institutional holders such as Vanguard Group and Bank of NY Mellon held Diamond Foods common stock during the class period. Membership in a major exchange such as the NASDAQ, the presence of short interest and options indicating investor positions and interest on both sides of the stock, and ownership by institutional investors, all support a finding that the market for Diamond Foods common stock was (semi-strong form) efficient during the class period in this matter.

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[14] *Cammer v. Bloom*, 711 F. Supp. 1286, 1287. (D.N.J. 1989).

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iv) Form S-3 Eligibility

15. The *Cammer* court found that "it would be helpful to allege the Company was entitled to file an S-3 Registration Statement in connection with public offerings or, if ineligible, such ineligibility was only because of timing factors rather than because the minimum stock requirements set forth in the instructions to Form S-3 were not met. Again, it is the number of shares traded and value of shares outstanding that involve the facts which imply efficiency."[15] At the time of *Cammer*, the filing of a Form S-3 registration statement required firms to file reports under the Securities Exchange Act of 1934 for three years prior to the Form S-3 filing and to have $150 million of stock held by non-affiliates (or $100 million of stock held by non-affiliates coupled with annual trading volume of three million shares per year).[16] The SEC has since modified the requirements for filing a Form S-3. Among the current requirements for filing a Form S-3 registration statement are that a company be organized and operating under the laws of the United States or its territories, has filed reports under the Exchange Act for twelve calendar months, has suffered no default of its obligations and has an aggregate market value of common equity held by non-affiliates of $75 million or more.[17]

16. Diamond Foods filed an S-3 Registration Statement on September 30, 2009, amending it on November 6, 2009, December 2, 2009, and January 11, 2010. On November 17, 2010, Diamond Foods had an aggregate diluted market value of common equity held by non-affiliates of $976 million, 13 times the $75 million threshold requirement of the S-

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[15] *See id.* p. 1288.

[16] *See id.* p. 1271.

[17] *See* SEC 1379, "Form S-3, Registration Statement under the Securities Act of 1933, General Instructions," as revised August 2001.

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3.[18] Diamond Foods continued to meet the requirements for S-3 eligibility through December 2012, when it failed to file its 10-Q in a timely manner due to an internal investigation into the facts at issue in this case. Meeting the minimum size requirements of the S-3 registration form supports a finding that the market for Diamond Foods common stock was (semi-strong form) efficient during the class period.

v) Event Study

17. The *Cammer* court examines the existence of empirical facts "showing a cause and effect relationship between unexpected corporate events or financial releases and an immediate response in the stock price" when considering the efficiency of a stock. We examine this factor using an event study analysis around a set of information events for Diamond Foods. Event study analysis is a widely accepted, peer-reviewed method for calculating the effect of an event on the value of the stock of a company.[19]

18. An event study analysis consists of first determining a statistical model (typically, a "market model") to predict the normal or expected return on the stock given market returns, then using the model to measure abnormal performance (i.e., abnormal price movement, beyond what can be explained by the market returns). Thus, the event study isolates that portion of Diamond Foods' returns that is unique to that firm and unrelated to market-wide news and effects on the examined dates. The standard event study methodology is well suited to analyze stock-price reactions around Diamond Foods'

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[18] According to its November 29, 2010 proxy statement, on November 17, 2010 Diamond Foods had 97% of common shares held by investors other than insiders. The diluted market cap of Diamond Foods common stock on November 17, 2010 was $1,005 million. $1,005 x 97% = $976.

[19] David I. Tabak, PhD, and Frederick C. Dunbar, PhD, "Materiality and Magnitude: Event Studies in the Courtroom", Litigation Services Handbook – The Role of the Financial Expert, Third Edition, Edited by Roman L. Weil, Michael J. Wagner, and Peter B. Frank, John Wiley & Sons, 2001.

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news releases during the class period as a means of testing for a cause and effect

relationship between financial releases and stock returns.

19. To estimate the parameters of the statistical market model used to study Diamond

Foods' stock-price movements around the event dates, we use daily returns on Diamond

Foods and the S&P 500 during an estimation period starting October 1, 2009, and

ending September 30, 2010. [20] There are a total of 252 trading days in the estimation

period. The estimated statistical model shows a statistically significant F-statistic,

indicating a statistically significant relation between the returns of Diamond Foods

common stock and the returns of the market.[21]

20. Following the language in *Cammer*, in order to test for a cause and effect relationship

between unexpected corporate events or financial releases and an immediate response in

the stock price, we must first identify a set of events or releases to analyze. Market

efficiency requires an immediate stock price response that is commensurate with the

news (or unexpected component) of a particular event. Thus, the event study approach

requires that one be able to identify the timing of each event, and whether the event

consisted of positive or negative news regarding the value of Diamond Foods' equity.

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[20] A second industry factor is sometimes used in event studies in litigation to measure the "firm-specific" impact of a news event when measuring per-share damages – i.e., the amount of news in an event that is unique to the circumstances of the examined company. Industry factors are sometimes included in event study regressions used to measure per-share damages because discriminating between the "intra-industry" and the "firm-specific" impact of news event is sometimes relevant to estimating firm-specific per-share damages. When using regressions to test for market efficiency of a particular stock – or in the language of *Cammer*, when examining a "cause-and-effect relation" between a news event and a company's stock price – an industry factor is not appropriate. Company announcements often contain information about industry prospects, and academic studies have documented that stock prices often react to the intra-industry information in the announcements of peers. [See Clinch, Greg J., and Norman A. Sinclair. "Intra-industry information releases: A recursive systems approach." *Journal of Accounting and Economics* 9.1 (1987): 89-106.] A one-factor model tests the cause-and-effect relation between both the "firm-specific" and "intra-industry" components of the news event.

[21] The market model regression output is presented as Exhibit 3 to this report.

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Furthermore, if one is testing for a significant stock-price reaction, an additional requirement is that the event in question is expected to produce a material change in the value of Diamond Foods' equity (where materiality equates to changes that are significant given the typical behavior in equity returns or changes in value).

21. To assemble a set of candidate events that may be worthy of formal analysis, we begin with the set of 8-Ks filed by Diamond Foods during the class period. Form 8-K is required by the Securities and Exchange Commission (SEC) as a means of notifying investors of material events of various types. Examples of such events include results of operations and financial condition, the departure of an officer or director, and entry into a material definitive agreement.[22] Accordingly, such events are in the spirit of the language in *Cammer*.

22. Not all events disclosed on Forms 8-K are expected to result in material changes in Diamond Foods' equity value. For example, Diamond Foods might disclose the results of a shareholder election, but where there is no surprise component to the disclosure (i.e., the outcome of the election fit the market's expectations). Thus, we used analysts' reports and news articles to identify those 8-Ks worthy of further analysis. Given the level of analyst and news coverage for Diamond Foods throughout the class period, we would expect that events or disclosures that would cause the market to change its beliefs about the value of Diamond Foods' equity would be discussed by these analysts and covered by news outlets, as a means of helping investors, clients, and readers better understand the impact of those events. Conversely, if an 8-K garnered no meaningful mention in analysts' reports or any substantial press coverage, it is likely that the

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[22] For a full list of events, see http://www.sec.gov/answers/form8k.htm.

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disclosure did not contain significant news (relative to the market's current beliefs).

Table 1 below lists all of Diamond Foods' Forms 8-K during the class period, where we

have sorted them into events for further analysis (that were discussed by analysts and

mentioned in news articles) in Panel A, and those that we do not examine further (not

discussed in analysts reports and news stories) in Panel B. For the events in Panel A, we

further separate them into 8-Ks excluding earnings announcements, and those related to

earnings announcements.

Table 1 Diamond Foods Forms 8-K During Class Period

Panel A: 8-K Events for Further Analysis

Event	Date	8-K Description	Analyst coverage of 8-K
1	4/5/11	Entry into a Material Definitive Agreement (Pringles Merger); Rights agreement, RE: Merger (two 8-Ks)	SunTrust, RBC, KeyBanc, BB&T, Janney
2	11/1/11	Press release, RE: Delay of merger, audit committee investigation	Janney, Jefferies, KeyBanc, RBC, SunTrust, Deutsche Bank
3	12/12/11	Notice of failure to satisfy listing requirement; Press release, RE: Investigation update	RBC, Deutsche Bank, KeyBanc
4	12/15/11	Disclosure of formal order of investigation from SEC	Jefferies, RBC
5	2/8/12	Disclosure of Non-Reliance on previously issued financial statements, departures of directors and officers	RBC, Janney, Deutsche Bank, SunTrust, Jefferies, KeyBanc
6	10/5/10	Results for fiscal quarter and fiscal year ended July 31, 2010.	Janney, RBC, SunTrust, Craig-Hallum, BB&T, KeyBanc
7	12/8/10	Results for first fiscal quarter ended October 31, 2010	Janney, RBC, SunTrust, Craig-Hallum, BB&T, KeyBanc
8	3/8/11	Results for second fiscal quarter ended January 31, 2011; Retirement of director	Janney, RBC, SunTrust, Craig-Hallum, BB&T, KeyBanc
9	6/2/11	Results for third fiscal quarter ended April 30, 2011	Janney, RBC, SunTrust, Craig-Hallum, BB&T,

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			KeyBanc, Deutsche Bank
10	9/15/11	Results for fiscal year ended July 31, 2011	Janney, RBC, SunTrust, BB&T, KeyBanc, Deutsche Bank

Panel B: 8-K Events Unlikely to Materially Affect Valuation

Event	Date	8-K Description	Analysts with coverage of disclosed event
11	1/20/11	Results of shareholder election	None
12	3/15/11	Appointment of director to Audit Committee to satisfy Nasdaq requirement	None
13	3/15/11	Investor presentation	None
14	4/28/11	Appointment of new director	None
15	6/21/11	Investor presentation	None – one mention of a consumer conference in an industry-level report
16	6/21/11	Press release, RE: Expiration of antitrust waiting period	None – one mention of highlights from a separate merger filing
17	9/7/11	Investor presentation	None
18	9/22/11	Established record date for special meeting to approve merger	None
19	10/4/11	Media release reaffirming outlook, discussing pre-harvest payment	RBC only
20	10/11/11	Credit agreement for merger	None
21	10/27/11	Results of shareholder meeting approving merger, International stock plan	None
22	11/28/11	Press release, RE: Market share data, investigation update	None

23. Of the 10 events in Panel A that we subject to further analysis, five are related to the

intended Pringles acquisition and are not concurrent with earnings releases, while five

consist of the release of quarterly and/or annual financial results. We begin our analysis

with the five non-earnings announcements. The five class period Diamond 8-Ks related

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to the Pringles acquisition have several benefits in terms of their ability to shed light on the issue of market efficiency: First, they are unscheduled, so they are more likely to contain surprise information. Second, they generally consist of one piece of news, or pieces of related news that are likely to be in the same direction (i.e., good or bad news). Third, given the combination of an unscheduled 8-K disclosure and notable analyst and news coverage, it is likely that all of these events should be associated with significant changes in Diamond Foods' equity value. Put another way, it is unlikely that the information contained in these announcements simply met the market's expectations. As a result, these five non-earnings events should provide more powerful tests of market efficiency.

24. We begin the analysis by discussing each of these events, and classifying them as "positive" (likely to be associated with a significantly positive abnormal return), or "negative" (likely to be associated with a significantly negative abnormal return).

25. 4/5/11 – On April 5, 2011, Diamond Foods announced the Pringles merger. It was immediately clear that this was a meaningful transaction from Diamond's perspective – for example, SunTrust Robinson Humphrey calculated that Pringles would constitute 58% of Diamond's revenues after the closing. Reception by analysts was uniformly positive. For example, RBC stated, "While there are clearly some execution risks around this deal, we have come to the conclusion that the numbers are simply too good." RBC noted that part of the appeal of the transaction was due to the use of Diamond Foods' (highly-valued) stock as a means of payment, writing, "The currency value of DMND stock is what makes the financial aspect of this deal so compelling." KeyBanc stated, "…we believe the merger presents significant opportunities for long-term value

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creation." Janney wrote, "We view today's announcement that DMND will merge with Procter and Gamble's…Pringles business positively, as it continues DMND's push towards a high-margin snack portfolio with meaningful scale leverage and operating efficiencies." Based on this information, we classify this first event as "positive," implying that it should be associated with a significant positive stock-price reaction if Diamond Foods' stock trades in an efficient market.

26. <u>11/1/11</u> – On November 1, 2011, Diamond Foods announced that the Pringles transaction would close in the first half of 2012 rather than by December 2011. This was simultaneously linked to the disclosure of an investigation by Diamond Foods' audit committee into the accounting of payments made to walnut growers. Analysts reacted negatively to this news, even if they maintained their longer-term opinions on Diamond Foods. As one example, SunTrust Robinson Humphrey stated, "We expect the stock to be depressed until there is clarification but remain comfortable the stock is worth $75 without Pringles." More negative was Deutsche Bank, which noted, "With all of this uncertainty, we expect Diamond's stock to be under significant pressure over the near term as investors sort out the impact to F2012-F2013 earnings and, as a result, the impact on valuation." Deutsche Bank went on to lower its estimate of Diamond Foods' value to $56 per share (from $73), as a result of probability-weighting Diamond Foods' value under three scenarios – a delayed but normal transaction, a modified terms transaction, and a cancelled transaction. And per Jefferies, "In our view, this is possibly a worst-case sequel to the ongoing uncertainty around the Sept payment to walnut growers." As one can see from these reports, this event increased the probability of a deal collapse in analysts' (and investors') minds, implying that Diamond Foods' stock

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price would be likely to fall – in a sense, giving back some of the gains it had experienced because of the announced transaction. Based on this information, we classify this second event as "negative," implying that it should be associated with a significant negative stock-price reaction if Diamond Foods' stock trades in an efficient market.

27. <u>12/12/11</u> – On December 12, Diamond Foods announced that it would not be able to file its 10-Q as scheduled, and that the internal accounting investigation would be completed by February 2012. The same day, a Wall Street Journal article cited feedback from a few walnut growers, suggesting that the momentum payment was in fact a catch-up payment for the previous year. RBC noted regarding the former disclosure, "We fully expected the Q to be delayed, as today marks the deadline for filing. That said, the estimated completion date is later than what investors had hoped." Deutsche Bank suspended its price target in response, concluding, "Moreover, in our view, only investors with significant tolerance for risk should look at Diamond given current dynamics." KeyBanc was more optimistic, saying, "We would not read into the mid-February deadline negatively." It is notable that KeyBanc is not positive about the disclosure – just not as negative as the other analysts appear to be. In addition, to the extent that the Wall Street Journal article might have revealed new information, that new information was negative, as well. In sum, we classify this third event as "negative," implying that it should be associated with a significant negative stock-price reaction if Diamond Foods' stock trades in an efficient market.

28. <u>12/15/11</u> – On December 15, 2011, Diamond Foods disclosed that it received a formal order of investigation from the SEC. This led Jefferies to downgrade the stock and

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lower its price target, stating, "In our view, the announced SEC investigation creates too much of an overhang with uncertain timing and increases the risk that the Pringles deal will be terminated," and "The investigation will most likely keep DMND's valuation depressed with an unclear end date for the SEC's activity…" RBC reached a similar conclusion, noting, "It does not come as a surprise to us that the SEC is investigating, but this adds more overhang to the stock from our perspective." In sum, we classify this fourth event as "negative," implying that it should be associated with a significant negative stock-price reaction if Diamond Foods' stock trades in an efficient market.

29. 2/8/12 – On February 8, 2012, Diamond Foods announced the results of its internal investigation, leading to a re-statement and the replacement of both the CEO and CFO. Analysts again took this event as bad news. As RBC stated, "This was a binary event and the outcome reflects the worst-case scenario…" Deutsche Bank commented, "With this news, we expect the stock to weaken as investors sort through the true earnings power of the business vs. the LT potential of a buyer for the branded assets." It was also noted by several that this event likely signaled the end of the Pringles transaction that had been viewed so positively when it was initially announced. For example, SunTrust Robinson Humphrey stated, "Clearly, this is the worst case scenario, not only creating uncertainty around the financial statements and removing a senior management team that directed the solid growth of the past few years, but also likely rendering dead the pending Pringles deal." In sum, we classify this fifth event as "negative," implying that it should be associated with a significant negative stock-price reaction if Diamond Foods' stock trades in an efficient market.

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30. Given these classifications and our market model, one can calculate abnormal returns for

each event date and compare the abnormal return against our expectations. In addition,

one can test whether each abnormal return is statistically significant (e.g., in the most

extreme of all abnormal returns based on our market model). A statistically significant

abnormal return, in the predicted direction, would provide support for the claim of

market efficiency. We present statistical significance in two ways, using both one-tailed

and two-tailed p values (where the latter are simply two times the former). Given our

predicted signs, we have a one-sided alternative hypothesis for each event, making a

one-tailed p value appropriate. However, given that many researchers present two-tailed

p values (which are larger and therefore commonly viewed as more conservative), we

present these measures, as well. Table 2 presents the results of our analysis:

Event	Filing Date	Market Date	Event	Predicted Sign	DMND Volume	Volume Rank in Trailing 100 days	DMND Adj. Ret	Abnormal Return	1-Tail P-value	2-Tail P-value
1	4/5/11	4/5/11	Entry into a Material Definitive Agreement (Pringles Merger); Rights agreement, RE: Merger (two 8-Ks)	Positive	3,154,831	1	6.7%	6.6%	0.0%	0.0%
2	11/1/11	11/2/11	Press release, RE: Delay of merger, audit committee investigation	Negative	6,102,940	1	-17.7%	-18.5%	0.0%	0.0%
3	12/12/11	12/12/11	Notice of failure to satisfy listing requirement; Press release, RE: Investigation update	Negative	13,494,878	2	-22.8%	-22.3%	0.0%	0.0%
4	12/15/11	12/15/11	Disclosure of formal order of investigation	Negative	5,521,009	6	-5.6%	-5.8%	0.1%	0.2%
5	2/8/12	2/9/12	Disclosure of Non-Reliance on previously issued financial statements, departures of directors and officers	Negative	32,758,738	1	-36.9%	-37.1%	0.0%	0.0%

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31. As the table shows, the results of the event study analysis support the claim of an efficient market for Diamond Foods stock during the class period. Both the raw and abnormal returns have the predicted signs on all five event dates. Furthermore, even using the more conservative two-tailed p values, all five events are statistically significant at the one-percent level, and the abnormal returns all have the predicted sign.

32. In order to provide additional evidence that the market is processing the information associated with each of these events, Table 2 also lists the trading volume on each event date, both in terms of the raw volume and the rank of that day's volume relative to the previous 100 trading days. All five event dates exhibit very large volume, with even the smallest volume greater than three million shares. All of the volume statistics are large relative to trailing volume, with ranks of one, one, two, six, and one (out of 100) for the five respective event dates. This provides further support that the market for Diamond Foods' stock is efficient during the class period, as investors appear to be responding to and trading on news.

33. For the five earnings announcements, the news contained in each event could be positive (likely to be associated with a significantly positive abnormal return), negative (likely to be associated with a significantly negative abnormal return), or less likely to be associated with a significant return. Note that the existence of this last group is entirely consistent with market efficiency – if a firm announces earnings and other financial results that contain little or no information that is surprising, then in an efficient market, one would not expect to see a material stock-price reaction. While we used discussions in analysts reports to help separate 8-Ks into those that were most likely to be associated with significant changes in Diamond Foods' equity value, this is generally not possible

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for earnings announcements, which are typically discussed by all analysts covering a firm. Thus, for earnings announcements, one must classify each announcement relative to expectations in order to arrive at a predicted response and interpret the results in terms of market efficiency.

34. Accordingly, each of the five earnings announcements is classified into positive, negative, or less likely to be significant, based on the disclosed financial results (earnings, sales, and any changes to management guidance), consensus forecasts prior to the announcement, management guidance prior to the announcement, analysts' interpretation of the results, and news coverage of the announcements. In addition to the raw earnings announcement, and the degree with which that number beat or lost to the consensus forecast, analysts and investors also assess the sources or "quality" of the earnings. For example, beating the consensus by means of cutting advertising expenditures in the current quarter might be considered to result in "low-quality" earnings, as such a cut may not be sustainable in future quarters without impacting earnings. Reported sales can also be important – especially for a growth stock – as analysts and investors are looking for signs whether the firm is on a pace to meet their growth expectations. Thus, in terms of positive earnings announcements, a best-case scenario is a firm that beats the consensus forecast with high-quality earnings (e.g., through improved margins), while also demonstrating sales growth above the forecasted amount. Below, we discuss each of the five analyzed earnings events, including the rationale for our expectation for each event in terms of expected abnormal returns.

35. 10/5/10 – After trading hours on October 5, 2010, Diamond Foods released its results for the fiscal quarter and year ended July 31, 2010. Quarterly earnings per share (EPS) beat

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the consensus estimate by $0.06, but many analysts discussed concerns over quality.

For example, Janney Capital Markets noted, "DMND reported 4Q10 results that

exceeded our estimate, but were of low quality as most of the beat came from a lower

tax rate ($0.04/sh) and lower advertising expense ($0.07/sh)." It is worth noting that if

one subtracts advertising expenses, then EPS would have been below expectations. In

addition, sales were less than consensus forecasts, leading BB&T to state, "…we are

disappointed with Q4 sales levels, particularly given what is such an important metric

for a growth stock like DMND." In spite of some positive comments regarding the raw

earnings number, analysts appeared to conclude that the news would be negative for

Diamond Foods. For example, Janney stated, "The stock will likely weaken on this

news," while RBC wrote, "…earnings quality concerns could weigh on sentiment to

some extent." SunTrust Robinson Humphrey noted, "…we expect the optics of the

quarter/guidance to pressure the stock near term." Taking all of this into consideration,

we classified this first earnings event as "negative," implying that we expect to observe

a negative abnormal return if the market for Diamond Foods' stock is efficient.

36. 12/8/10 – After the market close on December 8, 2010, Diamond Foods reported its

results for the first fiscal quarter of 2011. In contrast to the previous quarter, this

quarter's results were above expectations in every dimension. Earnings were $0.65,

compared to the consensus forecast of $0.60. Revenues were $253mm, above the Street

estimate of $240mm. Furthermore, management increased its guidance for 2Q11 and

FY11 revenue, with the latter climbing from $910-940mm to $920-945mm. These

numbers were met with positive responses by the analysts. For example, RBC noted,

"While quality wasn't perfect…we are encouraged by top-line momentum…our primary

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focus this quarter was the snack revenue number, which was solid at $137.6M. Going into the quarter, we thought a number at or near $135M would be bullish…" Craig-Hallum and KeyBanc also mentioned the positive news from the snack business, with the latter writing, "Most importantly, in our view, its Snack sales grew organically by around 15%..." Echoing these sentiments, BB&T added, "We believe the company's growth strategy is evident, and thus, working." After the announcement, SunTrust Robinson Humphrey, Janney, Craig-Hallum, and KeyBanc all raised their respective price targets for Diamond Foods stock, by six to 10 percent of their previous estimates. Given this breadth of positive news relative to expectations, plus the strong responses by analysts, we classify this second earnings event as "positive," implying that we expect to observe a positive abnormal return if the market for Diamond Foods' stock is efficient.

37. 3/8/11 – After the market closed on March 8, 2011, Diamond Foods announced its results for the second quarter of fiscal 2011. EPS was $0.91, slightly ahead of the consensus estimate of $0.89. However, revenues were below consensus, at $257.6M versus $265M. Analysts' reception to the news was somewhat mixed. SunTrust Robinson Humphrey, BB&T, and Craig-Hallum raised their price targets. RBC concluded that their thesis on the stock was intact, but wrote, "The optics of the quarter weren't great. Sales were toward the low end of guidance and about 3% below consensus. While EPS beat by 2c, the quarter ended a streak of nine consecutive quarterly guidance beats." Given the mixed news in terms of results (earnings slightly above forecasts with sales below), and mixed analysts' responses (some increases in price targets but noted poor "optics"), we classify this third earnings event as less likely to be associated with a significant abnormal return. The eventual price response in an

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efficient market would depend on the weights that investors placed on the various surprise components of the announcements, and could reasonably go either way.

38. 6/2/11 – After trading hours on June 2, 2011, Diamond Foods released its results for the third quarter of fiscal 2011. Notably, this was the first set of earnings results after the Pringles merger was announced. Again, this quarter appeared to represent something of a mixed bag. Q3 EPS was $0.52, $0.04 ahead of consensus, and sales of $223M beat consensus by $6M. However, RBC noted, "Quality isn't terrible, but not great," and, "We would not be surprised to see the stock give a little back after a nice run, but given the focus on Pringles and the lack of meaningful surprises in base business performance, the quarter is unlikely to be a thesis changer for most, ourselves included." Deutsche Bank also mentioned the slightly positive news for near-term earnings, even as the Pringles deal began to weigh more heavily on the company's outlook, saying, "We modestly increase EPS est. now but more details on Pringles must wait." KeyBanc stated that Diamond Foods had "reported another solid quarter that was roughly in line with our expectations – including continued double-digit organic snack growth – and raised its long-term EPS guidance." In sum, this announcement appears to reflect little news, with earnings and sales only slightly above consensus forecasts and a moderate response by the analysts. There are some discussions about weak earnings quality, as well as multiple references to the increasingly important role for Pringles in assessing Diamond Foods' ultimate value. Taken together, we classify this fourth earnings event as less likely to be associated with a significant abnormal return. As with the previous quarter, the eventual price response in an efficient market would depend on the weights

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that investors placed on the various surprise components of the announcements, and could reasonably go either way.

39. 9/15/11 – After trading hours on September 15, 2011, Diamond Foods announced its earnings for the fourth quarter of fiscal 2011. Earnings were about 18% above expectations, at $0.52 per share versus consensus of $0.44. Some analysts did note that a sizable portion of this positive surprise component in earnings was attributable to lower tax rates, but Diamond Foods still would have beaten the consensus absent these tax effects (see Janney and BB&T reports). Also positive was the fact that sales were almost eight percent above expectations, at $232.8M versus consensus of $216.3M. While discussing these results, SunTrust Robinson Humphrey concluded, "Overall we are pleased with the quarter and encouraged that the company is primed for an exciting next few quarters." Janney was even more positive, noting, "DMND posted excellent 4Q11 results, driven by 16% organic growth in its high-margin snack segment." This was echoed by KeyBanc, which stated, "Most importantly in our view, DMND's snack sales continued to grow at a double-digit organic growth rate in the 4Q (16%) and the company expects much more of the same for 1H12…" Meanwhile, RBC commented, "…robust sales momentum validates our top-line thesis, and we believe further upward estimate revisions are probably as the year progresses. These factors should continue to support a premium valuation, leaving our Outperform thesis intact." Numerically, this quarter demonstrated positive surprises both in terms of earnings and sales. Qualitatively, the analysts interpreted the announcements as good news, speaking of an excellent quarter and positive outlook for the stock. As such, we classify this fifth

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earnings event as "positive," implying that we expect to observe a positive abnormal

return if the market for Diamond Foods' stock is efficient.

40. As with the non-earnings announcements, given these classifications, and our market

model, one can calculate abnormal returns for each event date and compare the

abnormal return against our expectations. One can again test whether each abnormal

return is statistically significant (e.g., in the most extreme of all abnormal returns based

on our market model). A statistically significant abnormal return, in the predicted

direction, would provide support for the claim of market efficiency. As before, we

present statistical significance in two ways, using both one-tailed and two-tailed p values

(where the latter are simply two times the former). For the three events with predicted

signs, we have a one-sided alternative hypothesis for each event, making a one-tailed p

value appropriate. However, given that many researchers present two-tailed p values

(which are larger and therefore commonly viewed as more conservative), we present

these measures, as well. Table 3 presents the results of our analysis:

Event	Filing Date	Market Date	Event	Predicted Sign	DMND Volume	Volume Rank in Trailing 100 days	DMND Adj. Ret	Abnormal Return	1-Tail P-value	2-Tail P-value
6	10/5/10	10/6/10	4Q10 Earnings	Negative	1,981,312	1	-4.1%	-4.2%	1.2%	2.4%
7	12/8/10	12/9/10	1Q11 Earnings	Positive	1,353,404	2	10.4%	10.1%	0.0%	0.0%
8	3/8/11	3/9/11	2Q11 Earnings	No Prediction	860,350	2	-3.6%	-3.7%	n.a.	4.7%
9	6/2/11	6/3/11	3Q11 Earnings	No Prediction	881,032	3	-2.7%	-2.4%	n.a.	19.8%
10	9/15/11	9/16/11	4Q11 Earnings	Positive	2,804,857	1	11.6%	11.2%	0.0%	0.0%

41. Consistent with the results for the non-earnings events, the results in the table for the

event study analysis support the claim of an efficient market for Diamond Foods stock

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during the class period. For the three earnings announcements where there is a predicted sign for the market reaction (positive or negative), both the raw and abnormal returns have the predicted signs. Furthermore, even using the more conservative two-tailed p values, these three events are statistically significant – one at the five-percent level and two at the one-percent level. One of the two event dates without a predicted sign is also statistically significant at the five-percent level using a two-tailed test, suggesting that the negative news significantly outweighed the positive news on this date.

42. One remaining concern with the analysis of the earnings announcement dates is the judgment required to classify each date as positive, negative, or less likely to produce a significant stock-price response. In order to address this concern, we present results for each earnings announcement event based on three purely quantitative measures of the news contained in the event – the surprise in sales revenues (as a percentage), the surprise in EPS (as a percentage), and the surprise in quality-adjusted EPS (also as a percentage). We construct this last measure by removing from each quarter's earnings the portion of the surprise in EPS driven by unexpected advertising expenses (using an average across the four analysts for which we have the necessary numbers for all earnings events to estimate the expected portion of the advertising expenses). As discussed by analysts in their comments on earnings quality, a concern over less-than-expected advertising expenses is that when companies improve their earnings by cutting back on advertising, these cuts may lead to lower future growth in sales (an effect which is likely to be especially important for a growth stock such as Diamond Foods). Hence, we present realized earnings surprises net of these deviations of advertising expenses

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from expectations.[23] In Table 4, we show each surprise measure and the abnormal

return for each event:

Event	Market Date	Event	Sales Surprise	Announced EPS Surprise	Quality Adjusted EPS Surprise[24]	Abnormal Return
6	10/6/10	4Q10 Earnings	-7%	21%	-7%	-4.2%
7	12/9/10	1Q11 Earnings	5%	8%	12%	10.1%
8	3/9/11	2Q11 Earnings	-3%	2%	-5%	-3.7%
9	6/3/11	3Q11 Earnings	3%	8%	5%	-2.4%
10	9/16/11	4Q11 Earnings	8%	18%	21%	11.2%

43. Notably, using either quality-adjusted EPS or sales, the patterns are consistent with both

our more qualitative method for classifying earnings announcement events, and with an

efficient market for Diamond Foods stock. The more positive surprises in sales or

adjusted EPS are associated with more positive stock-price reactions, while the most

negative surprises are associated with negative stock-price reactions. The two events for

which it was difficult to predict a stock price response ex ante show both EPS and sales

surprises that are more moderate within this sample, and more moderate abnormal

returns.

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[23] Diamond Foods analysts also mention unexpectedly low taxes when they discuss some quarters' results. We do not adjust for taxes in these calculations because it is unclear why lower-than-expected taxes will curtail future growth. In fact, paying less in taxes may allow the firm to reinvest more, fueling higher growth.

[24] Quality Adjusted EPS Surprise removes that portion of the earnings surprise due to changes in advertising expense vs. advertising expense consensus estimate. The advertising cost consensus estimate is calculated as the average of the BB&T, Janney Capital, RBC, and SunTrust estimates of advertising expense prior to or at the earnings announcement.

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44. Finally, as with the non-earnings events, we also present, in Table 3 above, the trading volume for each earnings announcement event date, both in terms of the raw volume and where that day's volume would rank relative to the previous 100 days. For the three event dates with predicted signs, we find large volume, both in an absolute sense and relative to the trailing 100 days (with ranks of one, two, and one out of 100 for these three respective event dates). For the two earnings announcement dates classified above as less likely to produce a significant abnormal return, we see lower volume levels, although they are still relatively large compared to the trailing 100 trading days. Taken together, these volume results provide further support that the market for Diamond Foods' stock is efficient during the class period. Investors appear to be responding to (and trading on) the news contained in earnings announcements.

45. This examination of the stock price reaction around Diamond Foods' announcements during the class period shows that Diamond Foods common stock reacted quickly and logically to the arrival of new, material information regarding the value of Diamond Foods common stock. This supports the existence of a "cause-and-effect relationship between unexpected corporate events or financial releases and an immediate response in the stock price." The price reactions of Diamond Foods common stock on the dates examined above support a finding that the market for Diamond Foods common stock was (semi-strong form) efficient.

vi) Market Capitalization

46. Market capitalization of a company "may be an indicator of market efficiency because there is a greater incentive for stock purchasers to invest in more highly capitalized

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corporations."[25] Over the class period, Diamond Food had an average market

capitalization of $1.2 billion. Diamond Food's market capitalization reached a class

period high of $2.1 billion on September 20, 2011. Diamond Food's market

capitalization reach a class period low of $0.6 billion on December 8, 2011. The *Cheney*

and *Krogman* decisions state that market capitalization in the top sixty percent of the

relevant sample group weighs in favor of market efficiency. Bloomberg reports that as

of 12/31/2010, Diamond Food's market capitalization was in the top twenty percent of

the 2,682 securities in the NASDAQ Composite Index. Diamond Food's large market

capitalization supports the presumption that the market for Diamond Food's stock was

(semi-strong form) efficient.

vii) Bid-Ask Spread

47. The *Krogman* decision states that a "large bid-ask spread is indicative of an inefficient

market, because it suggests that the stock is too expensive to trade."[26] In *Krogman*, a

spread equal to 5.6% of closing price suggested market inefficiency.[27] In *Cheney*, an

average daily relative bid-ask spread of 2.4% weighed in favor of market efficiency.[28] I

have calculated the bid-ask spread in two ways. First, I have calculated the average

daily closing bid-ask spread as reported by Bloomberg. Over the entire class period, the

average daily closing bid-ask spread reported by Bloomberg for Diamond Foods

common stock was 0.1% of the closing price, well below the average in *Cheney*, and

supportive of market efficiency.

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[25] *Krogman*, 202 F.R.D. at 478 (citing *O'Neil v. Appel*, 165 F.R.D. 479,503 (W.D. Mich. 1996)).

[26] *Krogman*, 202 F.R.D. at 478.

[27] *See id*. at 478.

[28] *Cheney*, 213 F.R.D. at 501.

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48. I have also calculated the bid-ask spread using the Corwin-Schultz estimator. The

Corwin-Schultz estimator calculates the bid-ask spread using data on closing, high, and

low transaction prices of a stock.[29] The Corwin-Schultz estimator calculates the bid-ask

spread of Diamond Foods common stock during the class period as 0.8%, also well

below the average in *Cheney*. These measures of the bid-ask spread for Diamond Foods

stock show that Diamond Foods stock was not expensive to trade during the class

period, and this finding supports the presumption that the market for Diamond Foods

common stock was (semi-strong form) efficient.

viii) "Float" Percentage

49. The *Krogman* decision observes that "[i]n determining efficiency, courts also consider

the percentage of shares held by the public, rather than insiders."[30] In the *Cheney*

decision, 5% of shares outstanding held by insiders (i.e., a 95% float) was taken as

supportive of the presumption of market efficiency. As of November 17, 2010,

Diamond Foods had a float percentage of 97%. This high float percentage supports the

presumption that the market for Diamond Foods common stock was (semi-strong form)

efficient during the class period.

Conclusion

50. In conclusion, I find the *Cammer* and *Krogman* factors examined above provide

persuasive evidence of the (semi-strong form) efficiency of the market for the Diamond

Foods common stock over the class period examined. It is my opinion the market for

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[29] Corwin, S. A. and Schultz, P. (2012), A Simple Way to Estimate Bid-Ask Spreads from Daily High and Low Prices. *The Journal of Finance* 67: 719–760.

[30] *Krogman*, 202 F.R.D. at 478 (citing *O'Neil*, 165 F.R.D. at 503).

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the Diamond Foods common stock was semi-strong form efficient during the class

period in this matter.

VI. Documents considered

51. I reviewed numerous news and analyst reports on Diamond Foods over the class period

of 10/5/2010 – 2/8/2012. I also read the Consolidated Complaint filed July 30, 2012 in

this matter. I reviewed the financial data described above. A complete listing of the set

of news stories and analyst reports provided to me will promptly be provided to defense

counsel. Additionally, counsel for lead plaintiff will provide defense counsel with

copies of data gathered from Bloomberg and other sources.

VII. Potential Additional Analyses to Perform
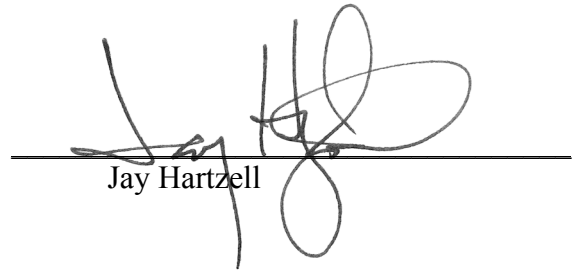
52. My opinions are based on the information received and available as of the date of my

report. I will consider any additional documents or information that becomes available

after the date of this report. I will consider issues raised at any deposition. Any of this

additional information may cause me to change my opinions, and I may supplement this

report accordingly.

VIII. Compensation

53. I am being compensated at a rate of $500 per hour. Those assisting me in my work on

this matter, Kevin Jewell and Dr. Greg Hallman, are being compensated at rates of $250

and $500 per hour, respectively.

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I declare under penalty of perjury, 28 U.S.C. sec. 1746, that the foregoing is true and correct this

28th day of March, 2013, in Austin, Texas.

_____
Jay Hartzell

EXHIBIT 1

Jay C. Hartzell

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Academic Positions Held

McCombs School of Business, The University of Texas at Austin

Professor of Finance	*2011 to present*
Chair, Department of Finance	*2011 to present*
Allied Bancshares Centennial Fellow in Finance	*2008 to present*
Executive Director, Real Estate Finance and Investment Center (REFIC)	*2007 to present*
Associate Professor of Finance	*2006 to 2011*
Associate Director, REFIC	*2005 to 2007*
Assistant Professor of Finance	*2001 to 2006*

Stern School of Business, New York University

Assistant Professor of Finance	*1998 to 2001*

Education

Ph.D. in Finance, The University of Texas at Austin, 1998
Minors: Real Estate, Economics.

B.S. in Business Administration and Economics, Trinity University, 1991
Graduated *Cum Laude*. National Merit Scholar.

Publications

"Institutional Investors as Monitors of Corporate Diversification Decisions: Evidence from Real Estate Investment Trusts" with Libo Sun and Sheridan Titman. *Journal of Corporate Finance*, forthcoming.

"Trade-offs in Corporate Governance: Evidence from Board Structures and Charter Provisions" with Stuart L. Gillan and Laura T. Starks. 2011. *The Quarterly Journal of Finance* 1, 667-705.

"Incentive Compensation and the Likelihood of Termination: Theory and Evidence from Real Estate Organizations" with Greg Hallman and Chris Parsons. 2011. *Real Estate Economics* 39, 507-546.

"Is a Higher Calling Enough? Incentive Compensation in the Church" with Chris Parsons and David Yermack. 2010. *Journal of Labor Economics* 28, 509-539.

"Alternative Benchmarks for Evaluating Mutual Fund Performance" with Tobias Mühlhofer and Sheridan Titman. 2010. *Real Estate Economics* 38, 121-154.

"Explicit vs. Implicit Contracts: Evidence from CEO Employment Agreements" with Stuart Gillan and Robert Parrino. 2009. *Journal of Finance* 64, 1629-1655.

"The Role of Corporate Governance in Initial Public Offerings: Evidence from Real Estate Investment Trusts" with Jarl Kallberg and Crocker Liu. 2008. *Journal of Law and Economics* 51, 539-562.

"Why Do Firms Hold So Much Cash? A Tax-Based Explanation" with Fritz Foley, Sheridan Titman and Garry Twite. 2007. *Journal of Financial Economics* 86, 579-607 (Lead article).

"The Effect of Corporate Governance on Investment: Evidence from Real Estate Investment Trusts" with Libo Sun and Sheridan Titman. 2006. *Real Estate Economics* 34, 343-376 (Lead article). Winner of the 2006 Edwin S. Mills *Real Estate Economics* Best Paper Award.

"Active Institutional Shareholders and Costs of Monitoring: Evidence from Executive Compensation" with Andres Almazan and Laura T. Starks. 2005. *Financial Management* 34(4), 5-34 (Lead article).

"The Impact of CEO Turnover on Equity Volatility" with Matthew J. Clayton and Joshua Rosenberg. 2005. *Journal of Business* 78, 1779-1808.

"The Role of the Underlying Real Asset Market in REIT IPOs" with Jarl G. Kallberg and Crocker H. Liu. 2005. *Real Estate Economics* 33, 27-50.

"What's In It For Me? Private Benefits Obtained by CEOs Whose Companies are Acquired" with Eli Ofek and David Yermack. 2004. *Review of Financial Studies* 17, 37-61.

"Institutional Investors and Executive Compensation" with Laura T. Starks. 2003. *Journal of Finance* 58, 2351-2374.

"Market Reaction to Public Information: The Atypical Case of the Boston Celtics" with Gregory W. Brown. 2001. *Journal of Financial Economics* 60, 333-370.

Research Papers

"On Enhancing Shareholder Control: A (Dodd-) Frank Assessment of Proxy Access" with Jonathan Cohn and Stuart Gillan. Under revision for third review, *Journal of Finance*.

"Is There a Disposition Effect in Corporate Investment Decisions? Evidence from Real Estate Investment Trusts" with Alan Crane. Under revision for second review, *Real Estate Economics*.

"Human Capital and the Supply of Religion" with Joseph Engelberg, Raymond Fisman, and Christopher A. Parsons.

Professional and Academic Activities and Service

Editorial Board, *Real Estate Economics*, 2007-present.

Editorial Board, *Real Estate Finance*, 2012-present.

Associate Editor, *Review of Financial Studies*, 2009-2012.

American Real Estate and Urban Economics Association (AREUEA), Board of Directors, 2009-2012. Member, 1998-present.

Urban Land Institute. Advisory Board (previously known as Executive Committee), Austin District Council, 2010-present. Member, Industrial & Office Park Development Council (Gold), 2009-present. Full member, 2008-present.

National Council of Real Estate Investment Fiduciaries. Data Products Council, 2009. Member, 2008-present.

Financial Management Association. Track chair, real estate, annual meeting, 2007. Program committee, European meeting, 2006. Program committee, annual meeting, 2004, 2005. Corporate finance awards committee, annual meeting, 2003. Member, 1998-present.

Western Finance Association. Program committee, annual meeting, 2006, 2010, 2011, 2012. Member, 1998-present.

Conference on Financial Economics and Accounting. Co-organizer, Finance, 19th Annual Meeting, 2008.

American Finance Association. Member, 1998-present.

Ad Hoc Referee for the following journals:
The Accounting Review; American Economic Review; European Financial Management; Financial Management; International Journal of Managerial Finance; International Journal of Manpower; International Review of Finance; Journal of Banking and Finance; Journal of Corporate Finance; Journal of Economics, Management, and Strategy; Journal of Economic Behavior and Organization; Journal of Finance; Journal of Financial and Quantitative Analysis; Journal of Financial Economics; Journal of Financial Intermediation; Journal of Financial Markets, Instruments and Institutions; Journal of Institutional and Theoretical Economics; Journal of Law, Economics, and Organizations; Journal of Real Estate Research; Journal of Risk and Insurance; Journal of Urban Economics; Management Science; Public Finance Review; Quarterly Review of Economics and Finance; Real Estate Economics; Review of Economic Studies; Review of Financial Studies.

Service for the University of Texas at Austin
Executive Director, Real Estate Finance and Investment Center (REFIC), 2007-present.
Associate Director, REFIC, 2005-2007.
Member, Finance Department Executive Committee, 2006-present.
Member, Graduate Assembly (University wide), 2009-present.
Member, Finance Department PhD Committee, 2003-present.
Member, University Outstanding Graduate Thesis Award Committee, 2010.
Guest speaker, MBA Alumni Network, Houston, 2012; El Paso, 2010; Seattle and Austin, 2009.
Guest speaker, UT LAMP program, 2009.
Speaker on Real Estate Valuation, VALCON 2012 and 2009, Co-sponsored by UT School of Law.
Member, Planning Committee, 2009 Mortgage Lending Institute, Sponsored by UT School of Law.
Speaker, 2012, 2010 and 2009 Mortgage Lending Institute (Austin and Dallas), Sponsored by UT School of Law.
Guest speaker, Austin Bar Association Real Estate Section meeting, 2010.
Speaker, 2009 Land Use Conference, Sponsored by UT School of Law.
Judge, MBA Finance Tournament, 2001-2006, 2008-2009, 2012.
Assistant Graduate Advisor and Minority Liaison, Finance Department, 2005-2008.
Member, McCombs Option I Policy Committee, 2006-2008.
Panel Chair, IC^2 Conference on Corporate Governance in Early-Stage Companies, 2005, 2006.
Member, Plus Program Committee, 2003-2005.
Judge, MBA Consulting Challenge, 2002, 2003, 2004.
Member, MBA Scholarship Committee, 2002.

PhD Dissertation Committees

UT-Austin: Jennifer Brown (accounting), Alan Crane (co-chair), Chang Mo Kang, Ayla Kayhan, Jung-Eun Kim (chair), Andreas Lawson, Jie Lian, Andras Marosi, Bill Mayew (accounting), Thomas Moeller, Carlos Molina, Saumya Mohan (co-chair), Chris Parsons (co-chair), Lorenzo Preve, Casey Schwab (accounting), Zekiye Selvili, Nate Sharp (accounting), Stephanie Sikes (accounting), Libo Sun (co-chair), Erin Towery (accounting), Vahap Uysal, Malcolm Wardlaw, Peggy Weber (accounting), Li Yong.

NYU: Eliezer Fich (economics), Charu Raheja, Jayanthi Sunder.

Academic Presentations (includes presentations made by co-authors at major conferences)

2012

University of Arizona, University of Utah.

2011

Indian School of Business Summer Research Conference, National Bureau of Economic Research (NBER) Program on Law and Economics, Society for Financial Studies Finance Cavalcade, University of Michigan.

2010

American Real Estate and Urban Economics Association (AREUEA) annual meeting, Homer Hoyt Institute/Weimer School of Advanced Studies in Real Estate and Land Economics Spring Conference, UC-Irvine Commercial Real Estate Academic Symposium, Indiana University, University of Colorado at Boulder, University of Florida.

2009

AREUEA annual meeting, Association for the Study of Religion Economics and Culture (ASREC) annual meeting, National Bureau of Economic Research (NBER) Economics of Religion conference, Western Finance Association (WFA) annual meeting, National University of Singapore, Ohio State University, Singapore Management University, University of Alabama, University of Cincinnati, University of Washington.

2008

AREUEA annual meeting, Real Estate Research Institute (RERI) Conference, McGill University, University of California - Los Angeles.

2007

American Finance Association (AFA) annual meeting, Hong Kong University of Science and Technology Symposium, Real Estate Research Institute (RERI) Conference, Australian National University, Baylor University, Penn State University, Texas Tech University, University of California - Berkeley, University of Delaware, University of Oklahoma, University of South Florida.

2006

AFA annual meeting (two papers), University of Texas at Dallas.

2005

AREUEA annual meeting, NBER Corporate Governance meeting, Ohio State University, Penn State University, Southern Methodist University, University of North Carolina at Chapel Hill Tax Symposium, University of Texas at San Antonio.

2004

Association of Financial Economists (AFE) annual meeting, AREUEA annual meeting, Financial Management Association (FMA) annual meeting, NBER Summer Institute: Corporate Governance Workshop, College of William and Mary.

2003

AFA annual meeting, AREUEA/AFA joint session at annual meeting, University of British Columbia, University of Delaware Corporate Governance Symposium, University of Minnesota, University of North Carolina at Chapel Hill, WFA annual meeting.

2002

Babson College, Oklahoma State University, University of Oklahoma, Real Estate Research Conference (Vail, CO), University of Southern California.

2001

Arizona State University, University of Oregon.

2000

Dartmouth Center for Corporate Governance/Journal of Financial Economics (JFE) Conference on Contemporary Governance Issues, Marquette University, NYU-Columbia Joint Seminar, Southern Methodist University, University of Illinois at Urbana-Champaign, University of Texas at Austin.

1999

AFA annual meeting, Harvard Business School/JFE Conference on Complementary Research Methodologies.

1998

AFA annual meeting, FMA annual meeting, University of Alberta, University of Florida, Georgia State University, University of Michigan Ann Arbor, New York University, University of North Carolina Chapel Hill, Penn State University, Rice University, Southern Methodist University, Stanford University, and Tulane University.

1997

FMA annual meeting.

Other Participation in Academic Conferences

Discussant

AFA annual meeting, 2002, 2009, 2010, 2102.

AFA / AFE joint session at annual meeting, 2003.

AFE annual meeting, 1999, 2007.

AREUEA annual meeting, 1999, 2000, 2004, 2007, 2008, 2012.

AREUEA mid-year meeting, 2009, 2010.

Conference, Financial Economics and Accounting, 1999.

Financial Research Association, 2010.

FMA annual meeting, 1999, 2002, 2003, 2004, 2006.

FMA annual meeting – Tutorial on empirical methodology, 2009.

FMA annual meeting – Panel discussion, 2008.

Mitsui Symposium at the University of Michigan, 2005.

Real Estate Research Institute Conference, 2011.

Red Rock Finance Conference, 2012.

Texas Finance Festival, 2000, 2007.

WFA annual meeting, 2001, 2010, 2011.

Session Chair
AREUEA annual meeting, 2010.
AREUEA mid-year meeting, 2009.
FMA annual meeting, 2004, 2005.
WFA annual meeting, 2006, 2010.

Teaching Experience

The University of Texas at Austin
Current PhD Course: *Empirical Corporate Finance*. Doctoral course in research methodology and topics.

Current MBA courses: *Real Estate Markets*. Elective in real estate asset and capital markets. *Financial Management*. Core MBA course, Houston MBA program.

Current BBA courses: *Integrative Finance*. Capstone case-based class for finance majors. *Real Estate Finance and Syndication*. Elective in real estate capital markets.

Previous courses: *Financial Management*. Core MBA course, also taught in UT's Executive MBA and Professional MBA programs. *Real Estate Analysis*. MBA elective in real estate debt markets. *Seminar in Real Estate Finance*. MBA elective in real estate equity markets. *Business Finance*. Undergraduate required course.

Teaching honors and awards: Voted the "Outstanding Professor" by the graduating class of the Houston MBA program. Twice voted the "Outstanding Core Instructor" by graduating MBA classes. Named to the Honor Roll for teaching multiple times for both the MBA and Executive MBA programs.

New York University
Taught *Corporate Finance* and *Corporate Finance Topics*. MBA elective and undergraduate elective, respectively.

Honors and Awards

Best Paper Award, Indian School of Business Summer Research Conference, 2011.
Outstanding Editorial Board Member, *Real Estate Economics*, 2010.
Post Doctoral Award, Weimer School of Advanced Studies in Real Estate and Land Economics, Homer Hoyt Institute, 2010.
Real Estate Research Institute (RERI) Grant Recipient (with Alan Crane), 2007.
RERI Grant Recipient (with Tobias Mühlhofer and Sheridan Titman), 2006.
CBA Foundation Research Excellence Award for Assistant Professors, 2006. (Finance Department nominee, 2003, 2005.)
Finance Department nominee for Assistant Professor Teaching Award, 2003, 2004.
University Preemptive Fellowship, UT-Austin, 1993-1995.
University Continuing Fellowship, UT-Austin, 1995-1997.
Austin Mortgage Bankers Association Scholarship, 1995.
Lola Wright Foundation Scholarship, 1995-1997.

Non-Academic Experience

Consulting practice, Austin, Texas.
Expert witness and financial consulting.   *2007 to present*
Provided expert witness testimony and served as a consulting expert. Experience includes depositions and testimony on multiple occasions. Retained as expert witness in multiple cases involving valuation, real estate transactions, contracting issues and market conditions, as well as several cases regarding compensation for regulated utilities. Retained as consulting expert by multiple clients for matters involving corporate governance, valuation, and mortgage issues (commercial and subprime).

Hewitt Associates, The Woodlands, Texas.
Benefits Consultant.   *1991 to 1993*
Consulted with clients on administration and ongoing design of defined contribution retirement plans. Earned Certified Employee Benefits Specialist (CEBS) designation.

Lola Wright Foundation, Austin, Texas.
Investment Performance Consultant.   *1995 to 1997*
While in graduate school, analyzed performance of foundation's investment managers.

References

Furnished upon request.

EXHIBIT 2

2.4 MARKET EFFICIENCY

Financial markets, such as the bond and stock markets, help bring buyers and sellers of securities together. They reduce the cost of buying and selling securities by providing a physical location or computer trading system where investors can trade securities. The supply and demand for securities are better reflected in organized markets because much of the total supply and demand for securities flows through these centralized locations or trading systems. Any price that balances the overall supply and demand for a security is a market equilibrium price.

Ideally, economists would like financial markets to price securities at their **true (intrinsic) value**. A security's true value is the present value (the value in today's dollars) of the cash flows an investor who owns that security can expect to receive in the future. This present value, in turn, reflects all available information about the size, timing, and riskiness of the cash flows at the time the price was set.[3] As new information becomes available, investors adjust their cash flow estimates and, through buying and selling, the price of a security adjusts to reflect this information.

Markets such as those just described are called "efficient" markets. More formally, in an **efficient market**, security prices fully reflect the knowledge and expectations of all investors at a particular point in time. If markets are efficient, investors and financial managers have no reason to believe the securities are not priced at or near their true value. The more efficient a market is, the more likely securities are to be priced at or near their true value.

The overall efficiency of a market depends on its *operational efficiency* and its *informational efficiency*. **Market operational efficiency** focuses on bringing buyers and sellers together at the lowest possible cost. The costs of bringing buyers and sellers together are called *transaction costs* and include such things as broker commissions and other fees and expenses. The lower these costs, the more operationally efficient markets are. Why is operational efficiency important? If transaction costs are high, market prices will be more volatile, fewer financial transactions will take place, and prices will not reflect the knowledge and expectations of investors as accurately.

Markets exhibit **informational efficiency** if market prices reflect all relevant information about securities at a particular point in time. As suggested above, informational efficiency is influenced by operational efficiency, but it also depends on the availability of information and the ability of investors to buy and sell securities based on that information. In an informationally efficient market, market prices adjust quickly to new information as it becomes available. Prices adjust quickly because many security analysts and investors are gathering and trading on information about securities in a quest to make a profit. Note that competition among investors is an important driver of informational efficiency.

true (intrinsic) value
for a security, the value of the cash flows an investor who owns that security can expect to receive in the future

efficient market
market where prices reflect the knowledge and expectations of all investors

market operational efficiency
the degree to which the transaction costs of bringing buyers and sellers together are minimized

market informational efficiency
the degree to which current market prices reflect relevant information and, therefore, the true value of the security

The concept of market efficiency originated with the Ph.D. dissertation that Eugene Fama wrote at the University of Chicago. You can see a video of an interview with Dr. Fama that relates to market efficiency and other concepts discussed in this chapter at http://www.dfaus .com/philosophy/ markets-work.html.

Efficient Market Hypotheses

Public financial markets are efficient in part because regulators such as the SEC require issuers of publicly traded securities to disclose a great deal of information about those securities to investors. Investors are constantly evaluating the prospects for these securities and acting on the conclusions from their analyses by trading them. If the price of a security is out of line with what investors think it should be, then they will buy or sell that security, causing its price to adjust to reflect their assessment of its value. The ability of investors to easily observe transaction prices and trade volumes and to inexpensively trade securities in public markets contributes to the efficiency of this process. This buying and selling by investors is the mechanism through which prices adjust to reflect the market's consensus. The theory about how well this mechanism works is known as the **efficient market hypothesis**.

efficient market hypothesis
a theory concerning the extent to which information is reflected in security prices and how information is incorporated into security prices

Strong-Form Efficiency. The market for a security is perfectly informationally efficient if the security's price always reflects all information. The idea that all information about a security is reflected in its price is known as the **strong-form of the efficient market hypothesis**. Few people really believe that market prices of public securities reflect all available information, however. It is widely accepted that insiders have information that is not reflected in the security prices. Thus, the concept of strong-form market efficiency represents the ideal case rather than the real world.

strong-form of the efficient market hypothesis
the theory that security prices reflect all information

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[3]We discuss how to calculate the present value of future cash flows in Chapters 5 and 6.

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private information
information that is not available to all investors

If a security market were strong-form efficient, then it would not be possible to earn abnormally high returns (returns greater than those justified by the risks) by trading on **private information**—information unavailable to other investors—because there would be no such information. In addition, since all information would already be reflected in security prices, the price of a share of a particular security would change only when new information about its prospects became available.

semistrong-form of the efficient market hypothesis
the theory that security prices reflect all public information but not all private information

public information
information that is available to all investors

Semistrong-Form Efficiency. A weaker form of the efficient market hypothesis, known as the **semistrong-form**, holds only that all **public information**—information that is available to all investors—is reflected in security prices. Investors who have private information are able to profit by trading on this information before it becomes public. For example, suppose that conversations with the customers of a firm indicate to an investor that the firm's sales, and thereby its cash flows, are increasing more rapidly than other investors expect. To profit from this information, the investor buys the firm's stock. By buying the stock, the investor helps drive up the price to the point where it accurately reflects the higher level of cash flows.

The concept of semistrong-form efficiency is a reasonable representation of the public stock markets in developed countries such as the United States. In a market characterized by this sort of efficiency, as soon as information becomes public, it is quickly reflected in stock prices through trading activity. Studies of the speed at which new information is reflected in stock prices indicate that by the time you read a hot tip in the *Wall Street Journal* or a business magazine, it is too late to benefit by trading on it.

weak-form of the efficient market hypothesis
the theory that security prices reflect all information in past prices but do not reflect all private or all public information

Weak-Form Efficiency. The weakest form of the efficient market hypothesis is known, aptly enough, as the **weak-form**. This hypothesis holds that all information contained in past prices of a security is reflected in current prices but that there is both public and private information that is not. In a weak-form efficient market, it would not be possible to earn abnormally high returns by looking for patterns in security prices, but it would be possible to do so by trading on public or private information.

An important conclusion from efficient market theory is that at any point in time, all securities of the same risk class should be priced to offer the same expected return. The more efficient the market, the more likely this is to happen. Since both the bond and stock markets are relatively efficient, this means that securities of similar risk will offer the same expected return. This conclusion is important because it provides the basis for identifying the proper discount rate to use in applying the bond and stock valuation models developed in Chapters 8 and 9.

For an in-depth discussion of market efficiency, visit http://www.investorhome.com/emh.htm.

> **BEFORE YOU GO ON**
>
> 1. How does information about a firm's prospects get reflected in its share price?
>
> 2. What is strong-form market efficiency? semistrong-form market efficiency? weak-form market efficiency?

2.5 FINANCIAL INSTITUTIONS AND INDIRECT FINANCING

5 LEARNING OBJECTIVE

As we mentioned earlier, many business firms are too small to sell their debt or equity directly to investors. They have neither the expert knowledge nor the financing requirements to make transacting in wholesale markets cost effective. When these companies need funds for capital investments or for liquidity adjustments, their only feasible choice is to borrow in the *indirect* market from a financial institution. These financial institutions act as intermediaries, converting financial securities with one set of characteristics into securities with another set of characteristics. This process is called **financial intermediation**. The hallmark of indirect financing is that a financial institution—an intermediary—stands between the lender-saver and the borrower-spender. This route is shown at the bottom of Exhibit 2.1.

financial intermediation
conversion of securities with one set of characteristics into securities with another set of characteristics

SECOND
EDITION

FUNDAMENTALS OF CORPORATE FINANCE

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WILEY

John Wiley & Sons, Inc.

EXHIBIT 3

SUMMARY OUTPUT
Diamond Food Market Model
Estimated over October 1, 2009 - September 30, 2010

Regression Statistics	
Multiple R	0.26
R Square	0.07
Adjusted R Square	0.06
Standard Error	0.02
Observations	252.00

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.00	0.01	0.01	18.40	0.00
Residual	250.00	0.09	0.00		
Total	251.00	0.09			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.00	0.00	0.88	0.38	(0.00)	0.00
SP500 Total Return Index	0.42	0.10	4.29	0.00	0.23	0.61